REMARKS/ARGUMENTS

Claims 1, 4-5, and 16-18 are amended.

Amended Claim 1 is supported at specification page 9, lines 1-7, and at previously presented Claim 5. The feature of previously presented Claim 5 is incorporated into Claim 1. Amended Claim 4 is supported at previously presented Claim 4 and at specification page 12, last 2 lines. Amended Claim 5 is supported at previously presented Claim 1 and at specification page 12, 3rd line from the bottom of the page. Amended Claims 16-18 are supported, respectively, at previously presented Claims 16-18.

No new matter is added.

Sole independent Claim 1 is drawn to a traction drive fluid comprising a base oil (e.g., component (A)) and a polymer component (B), each of which are defined in the claim. Further, a blending ratio of component (B) is from 0.05 to 5% by mass based on the composition, and the polymer or copolymer of component (B) has a molecular weight range of from 8,000 to 40,000.

The obviousness rejection of Claims 1-10 and 16-26 as being patentable over Yoshida in combination with Holubec is traversed.

The Office acknowledges that Yoshida does not describe or suggest Claim 1 component (B) (e.g., "Applicants' invention differs from Yoshida by adding component (B), a hydrocarbon polymer having a weight average molecular weight in the range of 8,000 to 40,000 which comprises as a constituent at least 10 mol% of a monomer bearing a cyclic structure and hydrogenated products thereof, which acts as a viscosity index improver to the traction drive fluid").[1] The Office therefore relies upon Holubec to remedy this deficiency.

Holubec is drawn to "oil compositions...[that]can be made by combining (A) about

[1] See Official Action page 3.

95 to about 30 weight percent of a base oil consisting of an oil having a viscosity of about 40 to 2000 SUS at 100°F...and (C) about 5 to about 70 weight percent of at least one oil soluble polymer, said polymer being exemplified by a hydrogenated interpolymer of a monovinyl arene and at least one C_{4-6} conjugated diene or at least one C_{2-6} alpha olefin."[2] Holubec Table II is presented below:

TABLE II

Example	Base Oil) Type	Amount,%[1]	Polymer Source	Amount, %[1]	Extreme Pressure Agent Type	Amount,%[1]	Viscosity Grade
4	350 Solvent Neutral	45	Example 1	12	Anglamol 99	6	80W/90
	650 Solvent Neutral	37					
5	200 Solvent Neutral	58	Example 1	32	Anglamol 98A	9	80W/90
6	200 Solvent Neutral	50	Example 2	40	Anglamol 99	8	85W/140

TABLE II-continued

Example	Base Oil) Type	Amount,%[1]	Polymer Source	Amount, %[1]	Extreme Pressure Agent Type	Amount,%[1]	Viscosity Grade
7	100 Solvent Neutral Synthetic Alkylated Aromatics (Mn = 340)	30	Example 3	22	Anglamol 93	7	75W/90

[1]All percentages by weight.

As shown by Table II, Holubec Examples 4, 5, 6 and 7 employ respectively, polymer in amounts of 12% by weight, 32% by weight, 40% by weight, and 22% by weight. These Examples, taken together with Holubec's description of "(C) about 5 to about 70 weight percent of at least one oil soluble polymer,"[3] clearly indicate that Holubec, when describing about 5 weight percent, means more than 5 weight %, because all of Holubec's examples employ significantly more than 5 weight % of polymer. Accordingly, Holubec when taken as a whole as required by the M.P.E.P.,[4] does not describe or suggest[5] at least the Claim 1

[2] See Holubec, Abstract.
[3] Id.
[4] See M.P.E.P. § 2142.02(VI). ("A prior art reference must be considered in its entirety, i.e., as a whole, including portions that would lead away from the claimed invention.")

feature that a blending ratio of the polymer component (B) is from 0.05 to 5% by mass based on the composition. Further, Holubec does not describe or suggest the feature of dependent Claim 4 that the component (B) polymer is blended in an amount of 0.1 to 1.5% by mass based on the composition, or the Claim 5 feature that the polymer has a weight average molecular weight ranging from 14,000-40,000. Because Holubec and Yoshida do not describe or suggest all of the features of Claim 1 and its dependent claims, these claims are not obvious in view of Holubec and Yoshida. Withdrawal of the obviousness rejection is requested on this basis alone.

Additionally, the obviousness rejection is traversed on the basis of superior and unexpected results.

The traction drive fluid composition of present Claim 1 and the claims depending therefrom, as previously described, exhibits *three* superior and unexpected results, in view of the cited references, *simultaneously*: 1) improvement in viscosity index, 2) excellence in shear stability, and 3) good traction coefficient not lower than that of a base oil.[6] *Each* of the superior and unexpected results, *by itself* is enough to address a *prima facie* case of obviousness. That the presently claimed inventive embodiments produce three simultaneous superior and unexpected results significantly weighs favorably toward patentability.

Without re-presenting in full, the previously discussed superior and unexpected results, some highlights are useful. For instance, specification non-inventive Comparative Example 1 demonstrates that when the weight of component (B) is *too large*, the resulting

[5] "Obviousness requires a suggestion of all limitations in a claim." See CFMT, Inc. v. Yieldup Intern. Corp., 349 F.3d 1333, 1342 (Fed. Cir. 2003) (citing In re Royka, 490 F.2d 981, 985 (CCPA 1974)).
[6] See specification pages 2, lines 5-8.

fluid composition exhibits poor shear stability.[7] Alternatively, non-inventive Comparative Example 2 demonstrates that when the weight average molecular weight of component (B) is *too small*, the resulting fluid exhibits a poor viscosity index.[8] Thus, and without being bound by theory, the weight range of component (B) is *critical*.

In non-inventive Comparative Example 3, an ethylene/propylene copolymer is employed instead of component (B) and the resulting fluid exhibits poor traction coefficient.[9]

The above data, taken together, demonstrate that employing a viscosity index improver other than component (B) results in a fluid that does not simultaneously exhibit the superior (and unexpected in light of the cited references) results of: 1) improvement in viscosity index, 2) excellence in shear stability, and 3) good traction coefficient not lower than that of a base oil.

The Office argues that Holubec teaches hydrogenated interpolymers of at least one monovinyl arene and at least one C_4-C_6 conjugated diene or at least one C_2-C_6 alpha-olefin may be used as additives, and the interpolymers have a number average molecular weight of 750 to 10,000.[10] The Office's argument misses the point because the Holubec does not *distinguish* component (B) of present Claim 1 from interpolymers having lower molecular weights. Houlbec, at column 4, lines 47-52, describes that the interpolymer has a number average molecular weight of 750 to 10,000, and most preferably 900 to 3,000, and this range is more close to the ethylene/styrene copolymer employed in non-inventive Comparative Example 2. As described above, non-inventive Comparative Example 2 demonstrates that when the weight average molecular weight of component (B) is too small, the resulting fluid

[7] See specification page 14, and Table 1-1, specification page 18, where in the Viscosity decrease after shear stability test, % decrease for Comparative Example 1 was a significant -31.5%.
[8] See specification page 19, Table 1-2.
[9] Id. where the traction component is 0.074.
[10] See Official Action page 3.

exhibits a poor viscosity index, so Holubec is *silent* regarding the *critical* range of the weight average molecular weight of component (B).

Additionally, Holubec is silent regarding the effects obtained by adding the interpolymer to a base oil. So, starting with the disclosures of for example Yoshida, Abe, or Muari with Holubec, one of ordinary skill must select an intepolymer having a non-preferred molecular weight range, and none of the applied references describe or suggest the simultaneous superior results of: 1) improvement in viscosity index, 2) excellence in shear stability, and 3) good traction coefficient not lower than that of a base oil.

Finally, the Office also asserts that Matsuno[11] describes polyalkylstyrene viscosity index improvers – but Matsuno discloses many index improvers, including polyisobutylene, and does not distinguish among them. Non-inventive Comparative Example 4 employs polyisobutylene and the resulting fluid exhibits poor shear stability.[12]

The cited references are *silent* regarding the combination of component (A) and component (B), the superior and unexpected results simultaneously obtained thereby, as described above, and the criticality of the composition and weight range of component (B). The claimed inventive embodiments are not obvious in view of the cited references. Withdrawal of the obviousness rejections is requested on this basis alone.

The obviousness rejection of Claims 1-10 and 16-26 based on Yoshida combined with Matsuno is traversed. The Office relies upon Matsuno to provide the Claim 1 polymer component (B), asserting that Matsuno teaches "that viscosity index improvers for traction drive fluids include polyalkylstyrenes."[13] Applicants have amended Claim 1 to exclude polyalkylstyrenes from the claimed component (B) polymer genus. Further, Applicants

[11] See Official Action page 3.
[12] See specification pages 15-16, and page 19, Table 1-2.
[13] See Official Action page 3.

submit that because Matsuno limits his polymer molecular weight ranges to specifically designated polymers,[14] Matsuno also fails to describe or suggest the Claim 1 feature that the component (B) polymer has a weight average molecular weight ranging from 8,000 to 40,000 Accordingly, Matsuno and Yoshida do not describe or suggest all of the features of Claim 1 and its dependent claims, so these claims cannot be obvious in view of Yoshida combined with Matsuno. Withdrawal of the obviousness rejection is requested on this basis alone.

Additionally, and as described above, the claimed inventive embodiments produce simultaneous superior and (in light of cited references) unexpected results. Withdrawal of the obviousness rejection is requested on this basis alone.

The obviousness rejections of Claims 1-10 and 16-26 as being unpatentable over Abe in view of Holubec or Matsuno are traversed. The Office acknowledges that Abe does not describe or suggest the polymer component (B) of Claim 1 and its dependent claims.[15] As described above, Holubec and Matsuno do not remedy this deficiency. Withdrawal of the obviousness rejections is requested on this basis alone.

Additionally, and as described above, the claimed inventive embodiments produce simultaneous superior and (in light of cited references) unexpected results. Withdrawal of the obviousness rejections is requested on this basis alone.

The obviousness rejections of Claims 1-6 and 11-26 as being unpatentable in view of Murai in combination with Holubec or in combination with Matsuno are traversed. The Office acknowledges that Murai does not describe or suggest the polymer component (B) of

[14] See Matsuno, column 12, lines 33-61.
[15] See Official Action pages 6-7.

Claim 1 and its dependent claims.[16] As described above, Holubec and Matsuno do not remedy this deficiency. Withdrawal of the obviousness rejections is requested on this basis alone.

Additionally, and as described above, the claimed inventive embodiments produce simultaneous superior and (in light of cited references) unexpected results. Withdrawal of the obviousness rejections is requested on this basis alone.

Applicants submit the present application is now in condition for allowance. Early notification to this effect is earnestly solicited.

Respectfully submitted,

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[16] See Official Action pages 8-9.